

REMARKS

Claims 1-73, 75-95 and 101-108 are presented for examination. Claims 74 and 96-100 have been cancelled. Claim 88 has been rewritten to correct a clerical omission.

Claims 67 and 107 have been rewritten to clarify that in the embodiment being claimed therein, the first material is selected from the group consisting of "wovens, nonwovens and combinations thereof." Claims 101, 104 and 107 have been further amended to put Claims 101 and 104 in independent form and to incorporate therein features previously claimed in Claims 96, 99, and 100.

Claims 67-95 and 107-108 are rejected as anticipated by or obvious in view of McCormack, et al. U.S. 5,955,187. Claims 34-66 and 104-106 are rejected as anticipated by or obvious in view of Ciammaichella, et al. U.S. 6,436,508. Claims 1-33 and 101-103 are rejected as anticipated by or obvious in view of Gegelys U.S. 4,643,726.

Claims 67-95 and 105-108, rejected on the basis of McCormack, are directed to the expandable material being disposed in the breathable woven or nonwoven material (e.g., within the pores). McCormack is directed to a film with a liquid-triggered barrier feature. The breathable material of McCormack is a film layer 10 (col. 4, line 36, and throughout the specification). A film is a continuous matrix of polymeric material; it is a continuous phase and thus lacks pores. After formation it may be intentionally apertured (i.e., pierced), but such apertures are not pores. Films are neither wovens nor nonwovens, the materials expressly called for by the claims rejected on the basis of McCormack. In FIGS. 8 and 9, where McCormack does indeed show a non-woven layer 40, it is part of a laminate, distinct and to one side of the film layer 10 (col. 9, lines 5-

42). Accordingly, McCormack fails to disclose or suggest the present invention as defined in Claims 67-95 and 107-108.

Claims 34-66 and 104-106, rejected on the basis of Ciammaichella, are directed to the expandable material as a second layer disposed on and secured to the breathable layer. Ciammaichella discloses an absorbent article having a top sheet, a back sheet, and an absorbent core therebetween, the breathable backsheet comprising "at least one layer comprising apertures" with the inner surface of the apertures being "coated with a non-soluble liquid-swellaable material. In the present invention, there are no apertures; thus there are no inner surfaces of the apertures and certainly no coating on any such non-existent inner surfaces. The Examiner must clearly distinguish between "pores" and "apertures." Pores are created by the natural spaces formed during the manufacture of a woven or nonwoven and are typically microscopic in nature. By way of contrast, apertures are formed intentionally in a layer, for example, by piercing of the layer with a hot needle or the like. Relative to pores, apertures tend to be significantly larger (see, for example, col. 7, line 61 - col. 8, line 14). One skilled in the art can easily distinguish between pores and apertures, the techniques used for forming apertures being identifiable from the apertured product itself. Accordingly, Ciammaichella fails to disclose or suggest the present invention as defined in Claims 34-66 and 101-103.

Claims 1-33 and 101-103, rejected on the basis of Gegelys, are directed to the expandable material as a third layer, disposed between inner and outer breathable layers. Gegelys discloses an insert for use in an incontinence undergarment. Gegelys describes his barrier layer as "having a plurality of apertures therethrough" (see

independent Claim 1), the apertures decreasing in size after a liquid insult “so as to restrict the passage of liquid back through said barrier layer toward said permeable inner layer”--in other words, to prevent re-wet. Like Ciammaichella, Gegelys is concerned with “apertures” rather than with pores. Gegelys is not at all concerned with “increasing the liquid transmission resistance of said [barrier] sheet in the direction of and at the point of liquid insult,” as required by Applicant’s Claim 1. Gegelys is concerned only with increasing the liquid-transmission resistance of the barrier sheet in the opposite direction of the liquid insult--that is, with diminishing re-wet from the liquid insult. Accordingly, Gegelys fails to disclose or suggest the present invention as defined in Claims 1-33 and 101-103.

To summarize, the cited references fail to support the respective rejections, especially when one considers the distinctions between “films,” on the one hand, and “wovens or nonwovens”, on the other hand, and between “apertures,” on the one hand, and “pores,” on the other hand.

In view of the above amendments and remarks, reconsideration of the rejection and allowance of all claims is respectfully requested.

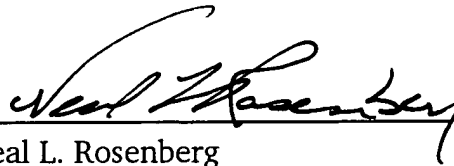
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REDLINED VERSION OF AMENDED CLAIMS

Rewrite Claims 67, 88, 101, 104 and 107 as follows:

67. (Amended) A disposable garment including a barrier sheet comprising:

(A) a first material which is breathable and defines liquid-permeable pores therethrough, said first material being selected from the group consisting of wovens, nonwovens, and combinations thereof; and

(B) a second material, said second material being three dimensionally expandable upon exposure to a liquid insult to form a layer of material blocking said pores of said first layer and increasing the liquid transmission resistance of said sheet in the direction of and at the point of liquid insult;

said second material being disposed in said first material;

said sheet prior to exposure to liquid being characterized by a permeability of at least one of an MVTR of at least 500 gsm/24hrs and an air permeability of at least 10 scfm/square foot; and

said second material prior to exposure to liquid having a weight no greater than one of 15 gsm and 10% of the basis weight of said sheet prior to exposure to liquid.

88. (Amended) The disposable garment of Claim 67 wherein said sheet is flexible.

101. (Amended) [The] A barrier sheet [of Claim 96] comprising:

(A) a first outer layer of breathable material,

(B) a second outer layer of breathable material, at least one of said first and second outer layers defining liquid-permeable pores therethrough, and

(C) a layer of material disposed intermediate said first and second outer layers, said intermediate layer being three dimensionally expandable upon exposure to a liquid insult to form a layer of material blocking said pores of at least one of said first and second outer layers and increasing the liquid transmission resistance of said sheet in the direction of and at the point of liquid insult;

said first and second outer layer being secured together with said intermediate layer therebetween;

said barrier sheet being characterized by a variable level of breathability, the breathability of the barrier sheet substantially decreasing in a given area upon a liquid insult to the barrier sheet in the given area, said sheet prior to exposure to liquid being characterized by a hydrohead of at least 10 millibars in one direction and a permeability of at least one of an MVTR of at least 500-gsm/24-hrs and an air permeability of at least 10 scfm/square foot, and upon exposure to liquid being characterized by a permeability of at least one of an MVTR of no more than 1,000 gsm/24 hours and an air permeability of no more than 10 scfm/square foot; and

said intermediate layer prior to exposure to liquid having a basis weight no greater than one of 15 gsm and 10% of the basis weight of said sheet prior to exposure to liquid.

104. (Amended) [The] A barrier sheet [of Claim 96] consisting of:

(A) a first layer of breathable material defining liquid-permeable pores therethrough, and

(B) a second layer of material disposed on and secured to said first layer, said second layer being three dimensionally expandable upon exposure to a liquid insult to form a layer of material blocking said pores of said first layer and increasing the liquid transmission resistance of said sheet in the direction of and at the point of liquid insult;

said barrier sheet being characterized by a variable level of breathability, the breathability of the barrier sheet substantially decreasing in a given area upon a liquid insult to the barrier sheet in the given area, said sheet prior to exposure to liquid being characterized by a hydrohead of at least 10 millibars in one direction and a permeability of at least one of an MVTR of at least 500 gsm/24 hrs and an air permeability of at least 10 scfm/square foot, and upon exposure to liquid being characterized by a permeability of at least one of an MVTR of no more than 1,000 gsm/24 hours and an air permeability of no more than 10 scfm/square foot; and

said second layer prior to exposure to liquid having a basis weight no greater than one of 15 gsm and 10% of the basis weight of said sheet prior to exposure to liquid.

107. (Amended) A disposable garment including a barrier sheet comprising:

(A) a first material which is breathable and defines liquid-

permeable pores therethrough, said first material being selected from the group consisting of wovens, nonwovens, and combinations thereof; and

(B) a second material, said second material being three dimensionally expandable upon exposure to a liquid insult to form a layer of material blocking said pores of said first layer and increasing the liquid transmission resistance of said sheet in the direction of and at the point of liquid insult;

said second material being disposed in said first material;

said barrier sheet being characterized by a variable level of breathability, the breathability of the barrier sheet substantially decreasing in a given area upon a liquid insult to the barrier sheet in the given area, said sheet prior to exposure to liquid being characterized by a hydrohead of at least 10 millibars in one direction and a permeability of at least one of an MVTR of at least 500 gsm/24hrs and an air permeability of at least 10 scfm/square foot, and upon exposure to liquid being characterized by a permeability of at least one of an MVTR of no more than 1,000 gsm/24 hours and an air permeability of no more than 10 scfm/square foot; and

~~—said second material prior to exposure to liquid having a weight no~~
greater than one of 15 gsm and 10% of the basis weight of said sheet prior to exposure to liquid.